

## EXTENDING THE RANGE OF LITHOGRAPHIC SIMULATION INTEGRALS

### ABSTRACT OF THE DISCLOSURE

A method for calculating long-range image contributions from mask polygons. An algorithm is introduced having application to Optical Proximity Correction in optical lithography. A finite integral for each sector of a polygon replaces an infinite integral. Integrating over two triangles, rather than integrating on the full sector, achieves a finite integral. An analytical approach is presented for a power law kernel to reduce the numerical integration of a sector to an analytical expression evaluation. The mask polygon is divided into regions to calculate interaction effects, such as intermediate-range and long-range effects, by truncating the mask instead of truncating the kernel function.

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